

04/05

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/026,066

DATE: 01/15/2002

TIME: 18:59:36

Input Set : A:\21cp1c Sequence Listing.txt

Output Set: N:\CRF3\01152002\J026066.raw

ENTERED

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4 <110> APPLICANT: Simard, John J. L.
5   Diamond, David C.
7 <120> TITLE OF INVENTION: EPITOPE SYNCHRONIZATION IN ANTIGEN
8   PRESENTING CELLS
10 <130> FILE REFERENCE: CTLIMM.21CP1C
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/026,066
C--> 12 <141> CURRENT FILING DATE: 2001-12-07
12 <150> PRIOR APPLICATION NUMBER: 09/561,074
13 <151> PRIOR FILING DATE: 2000-04-28
15 <150> PRIOR APPLICATION NUMBER: 09/560,465
16 <151> PRIOR FILING DATE: 2000-04-28
18 <150> PRIOR APPLICATION NUMBER: 09/561,572
19 <151> PRIOR FILING DATE: 2000-04-28
21 <150> PRIOR APPLICATION NUMBER: 09/561,571
22 <151> PRIOR FILING DATE: 2000-04-28
24 <150> PRIOR APPLICATION NUMBER: PCT/US01/13806
25 <151> PRIOR FILING DATE: 2001-04-27
27 <160> NUMBER OF SEQ ID NOS: 89
29 <170> SOFTWARE: FastSEQ for Windows Version 4.0
31 <210> SEQ ID NO: 1
32 <211> LENGTH: 118
33 <212> TYPE: PRT
34 <213> ORGANISM: Homo sapiens
36 <400> SEQUENCE: 1
37 Met Pro Arg Glu Asp Ala His Phe Ile Tyr Gly Tyr Pro Lys Lys Gly
38 1           5           10           15
39 His Gly His Ser Tyr Thr Thr Ala Glu Glu Ala Ala Gly Ile Gly Ile
40           20           25           30
41 Leu Thr Val Ile Leu Gly Val Leu Leu Leu Ile Gly Cys Trp Tyr Cys
42           35           40           45
43 Arg Arg Arg Asn Gly Tyr Arg Ala Leu Met Asp Lys Ser Leu His Val
44           50           55           60
45 Gly Thr Gln Cys Ala Leu Thr Arg Arg Cys Pro Gln Glu Gly Phe Asp
46 65           70           75           80
47 His Arg Asp Ser Lys Val Ser Leu Gln Glu Lys Asn Cys Glu Pro Val
48           85           90           95
49 Val Pro Asn Ala Pro Pro Ala Tyr Glu Lys Leu Ser Ala Glu Gln Ser
50           100          105          110
51 Pro Pro Pro Tyr Ser Pro
52           115
55 <210> SEQ ID NO: 2
56 <211> LENGTH: 188
57 <212> TYPE: PRT
58 <213> ORGANISM: Homo sapiens
60 <400> SEQUENCE: 2
61 Met Asn Gly Asp Asp Ala Phe Ala Arg Arg Pro Thr Val Gly Ala Gln
62 1           5           10           15

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## RAW SEQUENCE LISTING

DATE: 01/15/2002

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Input Set : A:\2lcp1c Sequence Listing.txt

Output Set: N:\CRF3\01152002\J026066.raw

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63 Ile Pro Glu Lys Ile Gln Lys Ala Phe Asp Asp Ile Ala Lys Tyr Phe
64          20          25          30
65 Ser Lys Glu Glu Trp Glu Lys Met Lys Ala Ser Glu Lys Ile Phe Tyr
66          35          40          45
67 Val Tyr Met Lys Arg Lys Tyr Glu Ala Met Thr Lys Leu Gly Phe Lys
68          50          55          60
69 Ala Thr Leu Pro Pro Phe Met Cys Asn Lys Arg Ala Glu Asp Phe Gln
70 65          70          75          80
71 Gly Asn Asp Leu Asp Asn Asp Pro Asn Arg Gly Asn Gln Val Glu Arg
72          85          90          95
73 Pro Gln Met Thr Phe Gly Arg Leu Gln Gly Ile Ser Pro Lys Ile Met
74          100         105         110
75 Pro Lys Lys Pro Ala Glu Glu Gly Asn Asp Ser Glu Glu Val Pro Glu
76          115         120         125
77 Ala Ser Gly Pro Gln Asn Asp Gly Lys Glu Leu Cys Pro Pro Gly Lys
78          130         135         140
79 Pro Thr Thr Ser Glu Lys Ile His Glu Arg Ser Gly Pro Lys Arg Gly
80 145         150         155         160
81 Glu His Ala Trp Thr His Arg Leu Arg Glu Arg Lys Gln Leu Val Ile
82          165         170         175
83 Tyr Glu Glu Ile Ser Asp Pro Glu Glu Asp Asp Glu
84          180         185
87 <210> SEQ ID NO: 3
88 <211> LENGTH: 180
89 <212> TYPE: PRT
90 <213> ORGANISM: Homo sapiens
92 <400> SEQUENCE: 3
93 Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
94 1          5          10          15
95 Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
96          20          25          30
97 Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
98          35          40          45
99 Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala Pro Arg Gly Pro
100         50          55          60
101 His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys Cys Arg Cys Gly Ala
102 65          70          75          80
103 Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe Tyr Leu Ala Met Pro Phe
104          85          90          95
105 Ala Thr Pro Met Glu Ala Glu Leu Ala Arg Arg Ser Leu Ala Gln Asp
106          100         105         110
107 Ala Pro Pro Leu Pro Val Pro Gly Val Leu Leu Lys Glu Phe Thr Val
108          115         120         125
109 Ser Gly Asn Ile Leu Thr Ile Arg Leu Thr Ala Ala Asp His Arg Gln
110          130         135         140
111 Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met
112 145         150         155         160
113 Trp Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser
114          165         170         175

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115 Gly Gln Arg Arg
116      180
119 <210> SEQ ID NO: 4
120 <211> LENGTH: 529
121 <212> TYPE: PRT
122 <213> ORGANISM: Homo sapiens
124 <400> SEQUENCE: 4
125 Met Leu Leu Ala Val Leu Tyr Cys Leu Leu Trp Ser Phe Gln Thr Ser
126 1      5      10      15
127 Ala Gly His Phe Pro Arg Ala Cys Val Ser Ser Lys Asn Leu Met Glu
128      20      25      30
129 Lys Glu Cys Cys Pro Pro Trp Ser Gly Asp Arg Ser Pro Cys Gly Gln
130      35      40      45
131 Leu Ser Gly Arg Gly Ser Cys Gln Asn Ile Leu Leu Ser Asn Ala Pro
132      50      55      60
133 Leu Gly Pro Gln Phe Pro Phe Thr Gly Val Asp Arg Glu Ser Trp
134 65      70      75      80
135 Pro Ser Val Phe Tyr Asn Arg Thr Cys Gln Cys Ser Gly Asn Phe Met
136      85      90      95
137 Gly Phe Asn Cys Gly Asn Cys Lys Phe Gly Phe Trp Gly Pro Asn Cys
138      100     105     110
139 Thr Glu Arg Arg Leu Leu Val Arg Arg Asn Ile Phe Asp Leu Ser Ala
140      115     120     125
141 Pro Glu Lys Asp Lys Phe Phe Ala Tyr Leu Thr Leu Ala Lys His Thr
142      130     135     140
143 Ile Ser Ser Asp Tyr Val Ile Pro Ile Gly Thr Tyr Gly Gln Met Lys
144 145      150     155     160
145 Asn Gly Ser Thr Pro Met Phe Asn Asp Ile Asn Ile Tyr Asp Leu Phe
146      165     170     175
147 Val Trp Met His Tyr Tyr Val Ser Met Asp Ala Leu Leu Gly Gly Ser
148      180     185     190
149 Glu Ile Trp Arg Asp Ile Asp Phe Ala His Glu Ala Pro Ala Phe Leu
150      195     200     205
151 Pro Trp His Arg Leu Phe Leu Leu Arg Trp Glu Gln Glu Ile Gln Lys
152      210     215     220
153 Leu Thr Gly Asp Glu Asn Phe Thr Ile Pro Tyr Trp Asp Trp Arg Asp
154 225      230     235     240
155 Ala Glu Lys Cys Asp Ile Cys Thr Asp Glu Tyr Met Gly Gly Gln His
156      245     250     255
157 Pro Thr Asn Pro Asn Leu Leu Ser Pro Ala Ser Phe Phe Ser Ser Trp
158      260     265     270
159 Gln Ile Val Cys Ser Arg Leu Glu Glu Tyr Asn Ser His Gln Ser Leu
160      275     280     285
161 Cys Asn Gly Thr Pro Glu Gly Pro Leu Arg Arg Asn Pro Gly Asn His
162      290     295     300
163 Asp Lys Ser Arg Thr Pro Arg Leu Pro Ser Ser Ala Asp Val Glu Phe
164 305      310     315     320
165 Cys Leu Ser Leu Thr Gln Tyr Glu Ser Gly Ser Met Asp Lys Ala Ala
166      325     330     335

```

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```

167 Asn Phe Ser Phe Arg Asn Thr Leu Glu Gly Phe Ala Ser Pro Leu Thr
168           340           345           350
169 Gly Ile Ala Asp Ala Ser Gln Ser Ser Met His Asn Ala Leu His Ile
170           355           360           365
171 Tyr Met Asn Gly Thr Met Ser Gln Val Gln Gly Ser Ala Asn Asp Pro
172           370           375           380
173 Ile Phe Leu Leu His His Ala Phe Val Asp Ser Ile Phe Glu Gln Trp
174 385           390           395           400
175 Leu Arg Arg His Arg Pro Leu Gln Glu Val Tyr Pro Glu Ala Asn Ala
176           405           410           415
177 Pro Ile Gly His Asn Arg Glu Ser Tyr Met Val Pro Phe Ile Pro Leu
178           420           425           430
179 Tyr Arg Asn Gly Asp Phe Phe Ile Ser Ser Lys Asp Leu Gly Tyr Asp
180           435           440           445
181 Tyr Ser Tyr Leu Gln Asp Ser Asp Pro Asp Ser Phe Gln Asp Tyr Ile
182           450           455           460
183 Lys Ser Tyr Leu Glu Gln Ala Ser Arg Ile Trp Ser Trp Leu Leu Gly
184 465           470           475           480
185 Ala Ala Met Val Gly Ala Val Leu Thr Ala Leu Leu Ala Gly Leu Val
186           485           490           495
187 Ser Leu Leu Cys Arg His Lys Arg Lys Gln Leu Pro Glu Glu Lys Gln
188           500           505           510
189 Pro Leu Leu Met Glu Lys Glu Asp Tyr His Ser Leu Tyr Gln Ser His
190           515           520           525
191 Leu
195 <210> SEQ ID NO: 5
196 <211> LENGTH: 228
197 <212> TYPE: DNA
198 <213> ORGANISM: Saccharomyces Cerevisiae
200 <400> SEQUENCE: 5
201 atgcagattt tcgtcaagac ttgaccggt aaaaccataa cattggaagt tgaatcttcc 60
202 gataccatcg acaacgttaa gtcgaaaatt caagacaagg aaggtatccc tccagatcaa 120
203 caaagattga tctttgccgg taagcagcta gaagacggta gaacgctgtc tgattacaac 180
204 attcagaagg agtccacctt acatcttggt ctaaggctaa gaggtggc 228
206 <210> SEQ ID NO: 6
207 <211> LENGTH: 581
208 <212> TYPE: DNA
209 <213> ORGANISM: Encephalomyocarditis Virus
211 <400> SEQUENCE: 6
212 aattccgccc ctctccctcc ccccccccta acgttactgg ccgaagccgc ttggaataag 60
213 gccggtgtgc gtttgtctat atgtgatttt ccaccatatt gccgtctttt ggcaatgtga 120
214 gggcccgga acctggccct gtcttcttga cgagcattcc taggggtctt tcccctctcg 180
215 ccaaaggaat gcaaggctctg ttgaatgtcg tgaagggaagc agttcctctg gaagcttctt 240
216 gaagacaaac aacgtctgta ggcacccttt gcaggcagcg gaacccccca cctggcgaca 300
217 ggtgcctctg cggccaaaag ccacgtgtat aagatacacc tgcaaaggcg gcacaacccc 360
218 agtgccacgt tgtgagttgg atagttgtgg aaagagtcaa atggctctcc tcaagcgtat 420
219 tcaacaaggg gctgaaggat gccagaagg taccocattg tatgggatct gatctggggc 480
220 ctcggtgcac atgctttaca tgtgtttagt cgagggttaa aaaacgtcta ggcccccgca 540
221 accacgggga cgtggttttc ctttgaaaaa cacgatgata a 581

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## RAW SEQUENCE LISTING

DATE: 01/15/2002

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TIME: 18:59:36

Input Set : A:\21cplc Sequence Listing.txt

Output Set: N:\CRF3\01152002\J026066.raw

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223 <210> SEQ ID NO: 7
224 <211> LENGTH: 16
225 <212> TYPE: PRT
226 <213> ORGANISM: Homo sapiens
228 <400> SEQUENCE: 7
229 Met Leu Leu Ala Val Leu Tyr Cys Leu Leu Trp Ser Phe Gln Thr Ser
230 1 5 10 15
233 <210> SEQ ID NO: 8
234 <211> LENGTH: 22
235 <212> TYPE: PRT
236 <213> ORGANISM: Homo sapiens
238 <400> SEQUENCE: 8
239 His Ser Tyr Thr Thr Ala Glu Glu Ala Ala Gly Ile Thr Ile Leu Thr
240 1 5 10 15
241 Val Ile Leu Gly Val Leu
242 20
245 <210> SEQ ID NO: 9
246 <211> LENGTH: 24
247 <212> TYPE: PRT
248 <213> ORGANISM: Homo sapiens
250 <400> SEQUENCE: 9
251 Glu Ala Ala Ser Ser Ser Ser Thr Leu Val Glu Val Thr Leu Gly Glu
252 1 5 10 15
253 Val Pro Ala Ala Glu Ser Pro Asp
254 20
257 <210> SEQ ID NO: 10
258 <211> LENGTH: 24
259 <212> TYPE: PRT
260 <213> ORGANISM: Homo sapiens
262 <400> SEQUENCE: 10
263 Glu Phe Leu Trp Gly Pro Arg Ala Leu Val Glu Thr Ser Tyr Val Lys
264 1 5 10 15
265 Val Leu His His Met Val Lys Ile
266 20
269 <210> SEQ ID NO: 11
270 <211> LENGTH: 19
271 <212> TYPE: PRT
272 <213> ORGANISM: Homo sapiens
274 <400> SEQUENCE: 11
275 Ala Pro Glu Glu Lys Ile Trp Glu Glu Leu Ser Val Leu Glu Val Phe
276 1 5 10 15
277 Glu Gly Arg
281 <210> SEQ ID NO: 12
282 <211> LENGTH: 16
283 <212> TYPE: PRT
284 <213> ORGANISM: Homo sapiens
286 <400> SEQUENCE: 12
287 Glu Leu Met Glu Val Asp Pro Ile Gly His Leu Tyr Ile Phe Ala Thr
288 1 5 10 15

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## VERIFICATION SUMMARY

DATE: 01/15/2002

PATENT APPLICATION: US/10/026,066

TIME: 18:59:38

Input Set : A:\21cplc Sequence Listing.txt

Output Set: N:\CRF3\01152002\J026066.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date